



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,097	03/12/2004	Christopher M. Lange	H16876US CON2 (1161.11641)	7635
128	7590	08/09/2004	EXAMINER LEYKIN, RITA	
HONEYWELL INTERNATIONAL INC. 101 COLUMBIA ROAD P O BOX 2245 MORRISTOWN, NJ 07962-2245			ART UNIT 2837	PAPER NUMBER

DATE MAILED: 08/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/799,097

Applicant(s)

LANGE ET AL.

Examiner

Rita Leykin

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-75 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 64-67 is/are allowed.
- 6) ☒ Claim(s) 23-63 and 68-75 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 23-63 and 68-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hudson et al. US # 5,970,997 and Erdman et al. US # 6,414,408.

With respect to above independent claims 23, 29, 35, 42, 51, 58, 61, 68, 70, 72 and 75 and also claims 26, 27, 31, 32, 38, 39, 54, 55, 69 and 71, Hudson et al. teach an apparatus for effecting actuation of a device which employs a single motor for providing a drive force and for setting a bias member, such as spring. Wherein the apparatus includes a controller coupled to a drive motor. In Fig. 1 the apparatus 10 including a drive motor 12 connected by a drive shaft 14 to a transmission member (planetary gear assembly) 16. The transmission member 16 is connected to a bias member 18 via a bias shaft 20 and is connected with a drive member 22 via input shaft 20, and is connected with a drive member 22 via an input shaft 24. In operation of the above apparatus a home position may be, for instance, normally open or a normally closed establishing one extreme of traveling and set position may be any position other than a home position. Consequently when an extreme of travel of valve is

Art Unit: 2837

reached, actuating shaft 34 cannot further rotate in the direction, urging valve toward its limit, (see Fig. 1, 2 and column 4, lines 4-63). In Hudson et al. the load and the spring are detected by monitoring the rotation of positioning member and bias member respectively to detect a stall before the positioning member and biasing member, respectively, exceed a predetermined position, (see abstract).

With respect to claims 24, 25, 28, 30, 33, 34, 36, 37, 40, 43-50, 52, 53, 56, 57, 59, 60, 62, 63, 73, 75, Hudson et al. do not teach monitoring electrical characteristic of the drive motor and monitoring characteristic threshold. However, Erdman et al. provide teaching for integral electronically commuted fan motor control, wherein power supply is provided to further reduce power consumption. In Fig. 22A the current limiting circuit 1260 controls the current through the motor windings as set by resistor 170, which is in series with the switching circuit 157, (see column 21, lines 66, 67). In Erdman et al. periodic retry cycle is provided to reduce motor heating when the rotor is stalled, (see column 22, lines 36-43). And wherein the motor is protected under fault and stall conditions by a current limiting circuit and timed retry circuit, (see abstract and Fig. 21, 22 and column 15, lines 61-67, column 17, lines 24-38). Erdman et al. also utilizing a Hall sensor to provide positional control signals. In Fig. 22B and 22C the circuitry calculates desired correct turnoff signal over wide range of motor speeds, wherein the turnoff signal controls energization of the motor windings as a function of relative rotor position.

Art Unit: 2837

Hence, it has been obvious to one of ordinary skills in the art, at the time invention was made to combine above teachings to provide monitoring of actuator position in combination with reduction of power supply to the motor.

The reason is to reduce power consumption.

3. Claims 64-67 are allowed.

4. The following is a statement of reasons for the indication of allowable subject matter. The prior art made of record in the attached form PTO-892 considered to be pertinent to the submitted application.

However, none of the prior art teaches or suggest in combination:

- Determining when the drive motor stalls at a stalled position by detecting an increase in drive power that is not consistent with a slop of drive power.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rita Leykin whose telephone number is (571)272-2066. The examiner can normally be reached on Monday-Friday 8:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on (571)272-2071. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2837

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Rita Leykin
Primary Examiner
Art Unit 2837

A handwritten signature in black ink, appearing to read "Rita Leykin", written in a cursive style.

R.L.